

# Can an apple a day really keep the doctor away?

March 26 2013, by Anthony King

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Studies of the bioactive compounds found in apples aim to uncover compounds that have an ability to prevent or alter the risk of serious ailments such as diabetes and heart disease.

Lars Ove Dragsted, professor in preventive nutrition at the University of Copenhagen, Denmark, took part in a wide ranging EU funded project, called [ISAFRUIT](#), designed to boost Europeans' consumption of fruits and ultimately improve their health. He talks to youris.com about the evidence of health benefits from eating fruits like apples, whether products like apple juice actually bring benefits and practical ways of increasing healthful eating.

## Why would apple have a positive effect on health?

It is well known that fruits have a protective effect on [cardiovascular health](#), but no one knows why. Previously, I've found that fruits [lower cholesterol](#) levels. [Cholesterol levels](#) are one of the known strong risk factors for cardiovascular disease, so lowering cholesterol might be one explanation as to why fruits reduce these [common diseases](#).

## What are the constituents in the fruit giving these benefits?

Lots of people have been guessing, saying it must be the anti-oxidants, or the potassium, or something else. But it is all guess work and nobody has

proven anything. We did some studies to find answers, but for now we cannot point to a specific constituent. But it seems that the plant cell wall components are very important and contain some of the factors majorly involved. These components are especially found in the skin, and include the waxy layer of the peel of apples, which could be an important contributor to these health effects. These components consist of the insoluble, but also soluble, fibres found along with [polyphenols](#) and other compounds. Consequently if you make a juice without cell wall content, like clear apple juice for instance, you do not have any [beneficial effects](#) on [blood lipids](#) like cholesterol, at least.

## **Could we distill these active components of apples into a pill?**

We must be a little humble and say this may be impossible. It might be like trying to isolate the sound from a radio: only with the whole radio do you have sound. But it is of course likely that there are specific components that have some effects. And we see that lots of pharmaceutical compounds were first isolated from natural compounds.

An apple contains maybe between 10,000 and 20,000 different compounds, maybe more. And finding which compounds are doing what is not straightforward. It is extremely difficult if you do it by testing hypotheses, that is, by trial and error. We have to be smarter and ask more open questions. I am still working with data from the ISAFRUIT project which looks at the metabolomics side. This is a way of profiling a very large number of compounds and using computers to better understand what is going on. This work can then help us form more informed hypotheses to test.

## **Do we know if processed forms of fruit are as good for you?**

We do not know for certain if processing into apple sauce, apple cakes, [apple juice](#), or something else, causes apples to lose some of their beneficial health effects. It seems from our studies that they do not have the same effect. So it seems that it is only the whole radio that plays the music. Most of the effects seem to come from the solid fraction of the apple, namely in the peel and cell wall fraction. Clear juice does not seem to have the right components.

What is more, the relationship between fruit such as apple and cardiovascular disease seems to be linearly related to intake. Even in countries with high fruit intake, you still see benefits from increasing intake further, provided your diet is still balanced. With low intake, you see an even stronger effect from just eating some fruit. So increasing your intake from say one to two fruit portions a day will have a major impact on your health. In Denmark we increased fruit and vegetable intake by more than 50% since we started campaigning about ten years ago, from two and a half to almost four portions a day, which is pretty good.

## **How can people be encouraged to eat more fruit?**

Part of the success in Denmark was that offering free fruit in the workplace was an idea taken up by all major companies. When people are offered fruit at work, they also eat more fruit outside the workplace. So they get more accustomed to using fruits as snacks instead of eating unhealthy snacks. This can help with other problems such as obesity. You must be smart because you compete with an industry having a 100 to 1,000 time higher advertisement budget than a public campaign.

Results from our project showed that if you give information about fruit the same way you would on a bottle of wine, people are happier to buy fruit. Sometimes you go to the supermarket and buy a peach, but then

when you go back the peach you buy has a completely different taste. This is because it's a different variety and consumers cannot tell the difference. Just like they could not tell what they were buying if not for the labels on wine. If you tell people where the [fruit](#) comes from, what variety it is and how it tastes, it changes consumer behaviour and they buy more, eat more and get healthier.

Provided by Youris.com

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